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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,337	05/15/2001	Hiroataka Uchiyama	8085	1086

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EXAMINER

CHANNAVAJALA, LAKSHMI SARADA

ART UNIT PAPER NUMBER

1615

DATE MAILED: 12/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,337

Applicant(s)

UCHIYAMA ET AL.

Examiner

Lakshmi S Channavajjala

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 6) ☐ Other: _____

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DETAILED ACTION

Receipt of Information Disclosure statement, dated 9-18-02 and response to restriction requirement, together with amendment, dated 9-25-02 is acknowledged.

1. Upon considering applicants arguments regarding the restriction requirement, examiner has withdrawn the restriction requirement, previously made in paper #5.

New claims 53-58 have been added by amendment A. Accordingly, claims 1-58 are pending.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application, by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: oath does not contain signatures of all the inventors.

Claim Rejections - 35 USC § 112

3. Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Instant claim recites a hydrotrope with a complexation constant of no greater than about 1,000 M-1. However, a careful review of the instant specification does not reveal any description of such a hydrotrope. A hydrotrope by definition is a chemical that has a property of increasing the aqueous solubility of various slightly insoluble organic chemicals. Instant specification does not

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provide any information or description of compounds that increase the solubility of slightly soluble organic chemicals. The specification also fails to mention such a requirement for the instant cyclodextrin containing composition, what are the compounds that these hydrotropes complex with. While it is known that hydrotropes are usually employed in formulation of liquid detergents (see attached Condensed Chemical Dictionary, 13th Edition), instant compositions are not directed to detergent formulations. Accordingly, one of an ordinary skill in the art would not be able to determine what kinds of compounds are encompassed by the claimed term "hydrotrope" and what such compounds would be useful for in the instant composition. Accordingly, absent any guidance, one of an ordinary skill in the art would have to perform undue experimentation to determine why and how and what hydrotropes need to be present in the instant composition.

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4. Claims 15 and 16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for cyclodextrin incompatible surfactants, does not reasonably provide enablement for cyclodextrin incompatible surfactants with the claimed ClogP values. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Instant claims recite cyclodextrin incompatible surfactants, having a ClogP value of about 3.5. Instant specification describes a number of cyclodextrin incompatible surfactants, but does not describe any cyclodextrin incompatible surfactants with the claimed ClogP values. Instant specification further describes perfume materials that are incompatible

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with cyclodextrin, and further states that the degree of hydrophobicity of the perfume material can be correlated with its octanol/water partition coefficient, calculated as ClogP (pages 32-33). Furthermore, the instant specification only describes CMC values and complexation constants of cyclodextrin incompatible surfactants. Thus, the specification provides no guidance as to how to choose cyclodextrin incompatible surfactants that possess the claimed ClogP value and accordingly, one of an ordinary skill would have to perform undue experimentation because surfactants are categorized as hydrophobic and hydrophilic. Whereas, the claimed incompatible surfactants encompass both types, it appears from the instant specification that the partition coefficient is only for hydrophobic substances, in particular, perfumes.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

~~Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).~~

5. Claims 1-12, 14-16, 19-37, 42-44 and 49-52 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 6,033,679. Although the conflicting claims are not identical, they are not patentably

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distinct from each other because the patented claims, directed to a composition comprising uncomplexed cyclodextrin and a cyclodextrin surfactant is within the scope of the instant claims. Patented claims do not specifically state the claimed complexation constant, critical micelle concentration or molecular aggregates, as claimed in the dependent claims, the patent specification describes same surfactants as "cyclodextrin compatible", which are also described in the instant specification. Accordingly, it is implicit that the patented surfactants exhibit such properties claimed (CMC, complexation constant etc.). Further, the patent composition and the instant composition are used for the same purpose i.e., to absorb malodor or in a cleaning product such as a wipe. Accordingly, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to include a cyclodextrin compatible surfactant with an expectation to reduce or lower the surface tension of the composition containing cyclodextrin.

6. Claims 1-37 and 42-52 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,436,442. Although the conflicting claims are not identical, they are not patentably distinct from each other because the process of making a cyclodextrin composition claimed in the patent includes the instant composition. Both sets of claims require the same components and recite the same order of mixing cyclodextrin with surfactants. Accordingly, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to use the process of the patent to prepare instant composition because the patented claims state that the process results in functionally available cyclodextrin, which is also desired by the instant claims.

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7. Claims 1-37, 42-52 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-52 of copending Application No. 09/855,440. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant composition and the composition of the co-pending application are directed to a composition for capturing unwanted molecules and both recite a functionally available cyclodextrin and a cyclodextrin compatible surfactant. While instant claim 1 does not recite an incompatible surfactant, dependent claims 13-17 and 31 of the instant application require an incompatible material. Thus, instant claims are generic to the copending claims. Besides, both sets of claims recite the same amounts of cyclodextrin, surfactants, critical micelle concentrations of surfactants, complexation constants, and finally the same process of making the composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

~~(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.~~

9. Claims 1-12, 14-16, 19-37, 42-44 and 49-52 are rejected under 35 U.S.C. 103(a) as being obvious over US 6,033,679.

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The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and §706.02(l)(2).

US 6,033,679 to Woo et al (Woo) teaches a composition containing uncomplexed cyclodextrin to absorb malodors from inanimate as well as animate surfaces and a cyclodextrin compatible surfactant and optionally other components such as surfactant, perfumes, antimicrobials etc (col. 2-col. 3). Woo teaches 0.01% to 20 % of cyclodextrin, 0.01% to 2% surfactant. Woo teaches that the cavities within the cyclodextrin molecule in solution is unfilled meaning cyclodextrin remains uncomplexed (col. 6, lines 33-38). Woo also teaches that a surfactant that is compatible with uncomplexed cyclodextrin, to provide a low surface tension

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that permits the composition penetrate, spread readily and more uniformly on hydrophobic, oily soil better for improved malodor control. Further, Woo teaches that the surfactant should not complex with cyclodextrin so as to diminish the performance of cyclodextrin (col. 8, lines 58-65). Woo describes the same cyclodextrin compatible surfactants that are also described in the instant specification (see col. 9-12). Woo does not mention the specific amounts of functionally available cyclodextrins (of claim 3-5), claimed complexation constants (claims 13-14, 27, 28) and critical micelle concentration (CMC of claims 19-26), and the cyclodextrins and surfactants of Woo possess the same complexation constant and CMC values. However, Woo teaches the same cyclodextrins, surfactants, polymers (col. 20-21), as that described in the instant invention. Thus, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to use a cyclodextrin compatible surfactant and a polymer in a composition containing uncomplexed cyclodextrin, and use for cleaning surfaces or absorb malodor because Woo suggests that a compatible surfactant penetrates and spreads faster on the soiled surfaces and the polymers provide additional malodor absorbing benefits. Further, optimizing the amounts of surfactant and cyclodextrin, such that the ability of cyclodextrin to absorb malodors is not diminished, by routine experimentation is within the scope of a skilled artisan.

10. ~~Claims 1-37 and 42-52 are rejected under 35 U.S.C. 103(a) as being obvious over US~~
6,436,442 to Woo et al (Woo '442).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37

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CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Woo '442 teaches a process of manufacturing compositions comprising functionally available cyclodextrin, cyclodextrin-compatible and -incompatible surfactants (col. 2, lines 55-63). Woo '442 teaches same amounts of cyclodextrin, both types of surfactants, complexation constants, critical micelle concentrations of the surfactants, which form aggregates, micelles, vesicles, critical micelle concentrations (CMC) (col. 3, cols. 6, 7, col. 18-27), polymers and the process of preparing the composition (col.30-31). Woo '442 teaches using the composition for capturing unwanted molecules such as malodorous molecules from house hold surfaces and that cyclodextrin is functionally available to capture all unwanted molecules, without having incompatibility with cyclodextrin. Therefore, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to use the composition containing functionally

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available cyclodextrin, together with cyclodextrin compatible and incompatible surfactants, in amounts and CMCs suggested with an expectation to provide a very powerful cleaning agent in which cyclodextrin is freely available to complex with unwanted molecules from the surfaces on which it is used and still incorporate compatible and incompatible materials such as surfactants, perfumes, antimicrobials etc.

11. Claims 1-37 and 42-52 are rejected under 35 U.S.C. 103(a) as being obvious over 09/855,440 (PGPUB 2002000705) to Uchiyama et al (hereafter Uchiyama).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or

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subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Uchiyama teaches a stable composition for removing unwanted molecules from a surface comprising a functionally available cyclodextrin, a cyclodextrin compatible surfactant and a cyclodextrin incompatible surfactant. The compositions are suitable for cleaning carpets, floors, fabric or from skin and hair (page 1, paragraph 0012-0014). The compositions form emulsions or dispersions with particle sizes of molecular aggregates such as micelles or vesicles (0011).

Uchiyama teaches the same complexation constants, compatible and incompatible surfactants (0022-0058) and compatible surfactants (0059-0113) as that claimed, including the amounts and critical micelle concentrations. Uchiyama also teaches the same method or process of preparing the composition. Therefore, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to employ the composition of Uchiyama for removing unwanted molecules, especially malodorous molecules from animate and inanimate sources, because Uchiyama suggests that unwanted molecules complex with the functionally available cyclodextrins, thus effectively removing or reducing the unwanted molecules from the treated surfaces. Further, the surfactants help the composition penetrate faster and uniformly on the surface applied. Thus, a skilled artisan would have expected to effectively clean animate or inanimate surfaces by effectively complexing unwanted molecules with cyclodextrin.

12. Claims 1-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,001,789 to Trinh et al (Trinh) in view of US 6,436,442 to Woo et al (Woo '442).

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Trinh teaches detergent compositions for cleaning toilet bowl containing perfume with a ClogP value of at least about 3, a detergent surfactant such as an amido alkyl betaine, a detergent builder such as citric acid and dissolution retarding system comprising a polymer (summary of invention in cols. 2-3). The composition is maintained at a pH of 2 to 11. Trinh teaches protective carriers for the perfume materials in their composition, which comprise cyclodextrin inclusion complexes (col. 11-12). The detergent surfactants described by Trinh in cols. 13-14, in particular, betaines, read on the instant cyclodextrin incompatible surfactants. Further, Trinh teaches citric acid or sodium salts of citric acid or other polycarboxylic acid salts (lines bridging col.14-15), which meets the instant buffering agent. Trinh teaches a dissolution retarding system comprising a polymer (col. 15, lines 20 through col. 16, lines 32), which reads on instant (claims 33-36) polymer.

Trinh does not teach functionally available cyclodextrin, cyclodextrin compatible surfactant, complexation constant, CMC values etc., claimed in the instant claims. However, the cleaning system of Trinh reads on the instant cleaning of hard surfaces.

Woo '442, discussed above, teaches a process of manufacturing compositions comprising functionally available cyclodextrin, cyclodextrin-compatible and -incompatible surfactants (col. 2, lines 55-63). Woo '442 teaches same amounts of cyclodextrin, both types of surfactants, complexation constants, critical micelle concentrations of the surfactants, which form aggregates, micelles, vesicles, critical micelle concentrations (CMC) (col. 3, cols. 6, 7, col. 18-27), polymers and the process of preparing the composition (col.30-31). Woo '442 teaches using the composition for capturing unwanted molecules such as malodorous molecules from house

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hold surfaces and that cyclodextrin is functionally available to capture all unwanted molecules, without having incompatibility with cyclodextrin.

Therefore, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to use a functionally available cyclodextrin, together with cyclodextrin in the composition of Trinh and also add cyclodextrin-compatible surfactants because Woo '442 teaches that a functionally available cyclodextrin is capable of complexing with unwanted malodorous molecules from surfaces to be cleaned with the compositions, while still complexing with some weakly complexing materials (col. 3, lines 20-49). Further, Woo '442 teaches that adding cyclodextrin compatible surfactants helps maintain the functionally available cyclodextrins in molecular aggregates such as micelles or vesicles, thus reducing the complexation of cyclodextrin incompatible materials with cyclodextrin (col. 18, lines 46-67) and also provide low surface tension that permits the composition to spread readily and uniformly on the surfaces where applied (col. 19, lines 10-40). Accordingly, it would have been obvious for one of an ordinary skill in the art to use the amounts of surfactants (compatible and incompatible) and cyclodextrin, such that the complexation constants of the surfactants are optimum so to allow functionally available cyclodextrin to capture and complex with unwanted molecules (such as malodor molecules) more efficiently. Thus, a skilled artisan would have expected to clean the toilet bowls more efficiently with the composition of Trinh containing the cyclodextrins and compatible surfactants of Woo '442, due to the increased capability of the cyclodextrin molecules in complexing with the malodorous molecules because of their functionally available sites for such molecules.

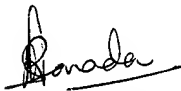
No claim is allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lakshmi S Channavajjala whose telephone number is 703-308-2438. The examiner can normally be reached on 7.30 AM -4.00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7924 for regular communications and 703-308-7924 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.



Lakshmi S Channavajjala
Examiner
Art Unit 1615
December 11, 2002